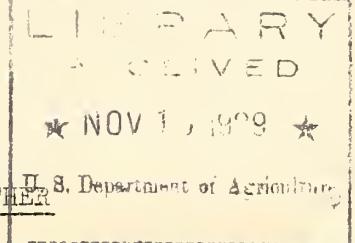


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TRYING TO DO SOMETHING ABOUT THE WEATHER

A radio talk by Prof. C. F. Marvin, Chief, Weather Bureau delivered through Station WRC and 32 other stations associated with the National Broadcasting Company, Tuesday, November 5, 1929 at 1:30 p. m. Eastern Standard Time.

Good afternoon, my good friends of Agriculture. I take it you are interested in agriculture, otherwise you would hardly be listening in on this program.

Let me hope that your individual crops and harvests this year have all been quite satisfactory, notwithstanding that the weather has misbehaved somewhat and crop yields as a whole have been somewhat below the average.

What puzzles me is, just why the big weather man has been selected in this case to tell you about what's happening in agriculture. From reading the newspapers I have gained a deep-set impression that in order that a Government officer may be popular among the farmers he must now be, or at some time have been, a dirt farmer. Since I can't qualify in this class I realize I am starting my talk with a handicap, nevertheless you will all agree that good dirt and a good farmer can not produce good crops without good weather, so this is where the weather man comes into the picture. Furthermore, we weather men think we have a substantial claim on the good will of farmers as well as of the general public, including those engaged in commerce, the industries, and the navigation of the sea and the air. We and our confreres all over the world are on duty every day in the year, Sundays and holidays alike, watching and reporting weather conditions and doing everything we can to keep every one advised and forewarned concerning weather conditions, especially those of a harmful nature.

Having, I hope, awakened your interest in the weather man, I will now try to give you a sort of mental picture of the costs and benefits of the work and how it is done.

Before June 30 next year, about \$2,350,000 will be spent by the Weather Bureau to help the farmers, and to give the general public and all the commercial, civic and industrial interests of the country a lot of useful information about weather conditions of the year as they occur, also to issue in advance forecasts of coming storms, floods, hurricanes, heavy snows, cold waves, etc. It may be fairly said that the farmers' share of the benefits growing out of these activities is either directly or indirectly practically the same as the share of commerce and industry. In addition to aids to commerce and agriculture, the Weather Bureau helps shipping on the Great Lakes and the sea costs, also supplies aviation with very important advices concerning weather and flying conditions. National

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state, and private forest organizations are also given useful advices, especially in the summer season, for the prevention and suppression of those destructive forest fires which each year wastefully eat up and destroy millions of dollars worth of almost irreplaceable timber. These additional activities will require the weather man to spend about another million dollars this year, making a total of nearly \$3,500,000 spent annually. Thus you see a whole lot of money is now being spent on the study of weather conditions.

Let us pause a moment to consider what can be set up on the other side of the ledger in the form of monetary benefits growing out of this great public service which the Government supports.

Advance warnings of the approach of severe cold waves, enable cattle raisers and stockmen to place animals in shelter, and especially in the spring time to adequately protect lambs and shorn sheep. Those who know the value of this one feature of weather service tell us it saves at least 2-1/2 millions of dollars annually.

Advance warnings of frosts enable orchardists throughout California, Washington, Oregon, the Gulf States, and elsewhere, to employ protective measures by heating orchards, flooding or otherwise protecting cranberry marshes, truck gardens, etc. Benefits in prevention of losses by these means have resulted in savings estimated at not less than half a million dollars annually.

In the disastrous floods in the Mississippi Valley during 1927, accurate warnings were issued of high flood stages of the river and tributaries at least a week, and in some cases considerably longer, in advance, by which many savings of live stock and property of all kinds were effected, not to include the saving of human lives. These benefits are estimated at not less than \$30,000,000.

I will not add more, but you must remember I have said nothing about the saving to shipping and cities resulting from storm and hurricane warnings, or the benefits to air navigation.

When the large sums representing the direct and indirect benefits, amounting annually to millions of dollars, are set up against the 3 to 4 million dollars representing the cost of the weather service, every one recognizes that the government weather organization is a highly valuable and indispensable institution.

How does the weather man do all his work? The full answer to such a question would be a long story, but I will try to give you a general idea.

Just picture in your minds the vast continental expanse of the United States domain, beginning way up in Alaska, reaching over to the Hawaiian Islands, embracing all the States from coast to coast, including

Porto Rico. Think of weather stations dotted all over this domain, more than 200 of them, each manned with trained observers provided with requisite instruments. Add to this picture stations and men scattered over the Dominion of Canada. Also think of various ships at sea, say within 1000 miles of American coasts. All these constitute a small army of observers. By what is equivalent to an international agreement, each of these observers twice each day, namely, between 7 and 8 o'clock in Washington, 4 and 5 o'clock on the Pacific Coast, makes a detailed observation and report of weather conditions at his station or aboard his ship. You would be mystified and amazed if I were to describe to you the marvelous telegraphic and radio organization which goes into action exactly at 8 a.m. and p. m., each day and within scarcely over 60 minutes, often in less time, transmits all reports to Washington, D. C. The marvel of it is the transmission does not stop when the reports reach Washington, but automatically many of the land stations in both the United States and Canada simultaneously receive a goodly part of the reports from all the other stations. As fast as the telegraphic reports come in, trained chartmen in more than 150 cities of the United States enter the weather reports on suitable maps of the United States, and within a few minutes after the last report is received the Chief weather man at each station has before him a complete picture of exactly what the weather is over practically the whole of North America and adjacent oceans. His training and long experience, based on studies of these maps, tells him where the fair weather, rains, cold waves, storms, etc., are going to be within the next 24 to 36 hours.

Reading the changing weather maps from day to day, and making forecasts thereon, is such a fascinating thing that some men devote their whole lives thereto and become extremely proficient in the science of weather forecasting, and I regret that time prevents my speaking further on this subject at this time.

